An
Inaugural Essay
on
Neuralgia
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by
Robert Bridges
of
Pennsylvania

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An Essay on Neuralgia.

The disease intended to be noticed under this title, has of late attracted much attention, not only from the painful character, but from the intractable and obscure nature of the complaint. This essay is not undertaken with the vain hope of throwing any additional light on a subject which has engaged the attention of abler and more experienced persons, but for the purpose of collating and arranging the various opinions and facts appertaining to the inquiry and to condense into a small compass the history of the various remedies, which, at different periods, have been employed in the cure of the disease.

The name Neuralgia (derived from "νευρον, nervus," and "αλγος, dolor") is selected as the most appropriate of any of the terms employed to designate the disease. "Tic douloureux", the name given by M. André is liable to objection, as the word "Tic" is often used in the same sense, as, Trismus, there-

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by confounding two diseases which are entirely dissimilar. The same objection will apply to "Trismus Dolorificus" the name proposed by M. Sauvage. The names employed by Drs J ("a painful affection of the face") and S Fothergill ("Faciei morbus nervorum crucians") are defective as generick terms, in confining their application to that form only, which affects the face. Even the latter term may be reduced to the same signification as a Neuralgia, but not so concisely expressed, by the omission of the first word of the term. The terms Autalgia dolorosa and Prosopalgia are rejected as expressive neither of the nature or seat of the disease.

With regard to the period at which this disease first made its appearance, authors are at variance, some ascribing it to the time of Hippocrates, others to that of Rhazis an Arabian writer, while a third class, place it at no earlier date than the middle of the last century. Pujol who has taken the greatest trouble in this inquiry was unable to satisfy him-

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-self that the ancient Greek writers were acquainted with the disease. He gives the credit of the first accurate description, to M. Andre of Versailles, who noticed it, in his treatise on the diseases of the Urethra published A.D. 1756. This opinion is the one most generally adopted at the present time. Since this period it appears to have been more frequently noticed. It was next noticed in France by M. Louis in 1766, subsequently by M. Villard in 1768. and by Pujol and Thouret about 1782. The first notice of the disease in England appeared in the third volume of Medical observations and inquiries, in a case detailed by Dr. J. Fothergill in a paper entitled "Observations on the use of Hemlock". This slight notice was followed in the fifth volume for the year 1773, by a paper from the same author, devoted entirely to the consideration of this disease. The next notice was by Dr. J. Haighton in the medical Records and Researches. A.D. 1798. This was followed in 1804 by the systematic treatise of Dr. J. Fothergill, and still later by sev-

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ral other observations some in distinct essays, others in the different periodical publications of the day, appended to the various cases noticed by the authors.

Neuralgia may be defined, to be, a morbid sensibility of a nerve and its branches; attended with acute lancinating pain in its course together with convulsive actions of the neighbouring muscles, occurring in sudden intermittent paroxysms. This definition is intended to embrace the characteristic signs of this disease without entering into details which will receive an appropriate consideration in another place.

The causes of this disease are not always obvious; some persons becoming affected without any apparent cause. They may however be divided into Local and General causes. The Local are, injuries, as, partial division, puncture contusion or any organic lesion of the nervous fibre, Tumors pressing upon or enclosed in a nerve, slight inflamation or congestion of the neurilema, a varicose state of its veins, and

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the irritation of decayed teeth. The passage of a calculus through the ureter gave rise in one case to Neuralgia of the Obturator nerve, and inflamation of the soft parts round the root of a nerve has been the cause in another. The General causes are not so well known, but the following may be mentioned as having a great share in the formation or aggravation of the disease when formed. First. Such as by their action on the general system are known to produce local effects, as, exposure to cold and moist atmosphere, vicissitudes of weather, &c. Second. Such as produce constitutional derangement. Though these causes may be denied to produce the disease, yet they must be acknowleged to act as powerful agents in aggravating it when by the action of any cause it has been produced.

This disease is not confined to any particular set of nerves, but may affect all the nerves of sensation, especially those which are seated superficially and in loose cellular texture. The nerves

thus situated are more exposed to the action of external agents, as, injuries, cold, changes of weather &c. The form which is most usually seen is that of Neuralgia facii, affecting the branches of the fifth pair of nerves, The second or suborbitar branch is more commonly affected than either of the others. The next in frequency is that form denominated neuralgia femoropoplitei. The other forms are comparatively rare. The peculiar names given to the disease according as it affects different parts are no further useful than as pointing out the location of the disease. The occurrence of two forms of this disease in the same person is seldom seen. Cases of this kind are said to have occurred to Bichat, Colly no and Fouquet.

The period of life at which this disease occurs is stated by Dr. Fothergill to be about the fortieth year. This may be admitted as the period at which it is most usually seen. Cases however have occurred at a much earlier period. Of thirty nine cases re-

noted in the different medical journals within the ages mentioned, twenty nine were above forty, six between thirty and forty and but four under thirty years of age. The time of life may perhaps be more correctly designated as that period at which the system appears to be loosing its balance and becoming liable to be affected by slight causes. The period varies in different persons according to their natural constitution, their previous manners and habits of life and the more or less frequent action of those causes which have a tendency to bring on premature old age. The sedentary lives of females would seem likely to render them more susceptable of the disease, but that they are so, appears doubtful. It occurred thus in the practice of Dr. J. Fothergill, but in that of Pujol the contrary obtained.

In exhibiting the symptoms of this disease that form will be selected which most frequently occurs, as affording the best specimen of the affection. As the characters the signs are the same

in all parts of the body, the disease may be recognised with equal facility in any other form by taking into consideration the anatomical structure of the affected part. A form of this disease is described by some of the German writers in which an intermittent character is clearly manifested by the attacks recurring at regular intervals. The assertions of the existence of this form are received with doubt by many and by others entirely rejected, on the ground that the disease has been confounded with Rheumatism, Hemicrania or some other affection of the head, which are well known to assume a periodical character. Whether this form exists, is not pretended to be affirmed or denied, but until these accounts receive further confirmation, they may be accounted as observations not firmly to be relied on. The disease will therefore be considered without any reference to its assumption of a periodical character. The disease in its commencement varies in its mode of attack, sometimes beginning suddenly in severe paroxysms, at others in so slight

a manner as to attract but little notice, and only excites attention after some time by the greater frequency and violence of the paroxysms, while on other occasions it assumes a form much resembling Rheumatism, which in its course gradually puts on the appropriate signs of this disease. In whatever manner the disease may commence, the form which it ultimately exhibits will be the same. The attacks are marked by paroxysms coming at irregular intervals and of uncertain duration, varying from several seconds to as many minutes. The paroxysms are generally sudden in their attack, leaving the patient in a short time in a state of comparative and often perfect ease. Sometimes these paroxysms are preceded by an acute pulsatile pain, which I have aptly compared to "the vibrations of a musical chord". On this persons observing attentively the parts to which the affected nerve is distributed a slight convulsive action of the muscles may be seen, which action seems to keep pace with each throb of the pain. This throbbing pain is often more disagreeable, though not so violent as the acute

pain of the paroxysm. The pain in this disease is acute and lancinating, shooting along the course of the nerve from its extremities to its origin. The sensation has been compared to burning or boring, tearing or cutting the flesh from the bones. When we see a patient attacked with the paroxysm of this disease, we observe him to become suddenly motionless, even in the most uneasy posture. The countenance is expressive of intense agony, the brows are knit, the eyelids compressed, the angle of the mouth drawn towards the ear, the breathing is slow, amounting at times to almost a total cessation of respiration, and the patient appears as if afraid of the slightest motion, the whole appearance portraying in visible signs the intensity of the suffering. These paroxysms are sometimes accompanied by redness or watering of the eye of the affected side and a flow of saliva from the mouth. It is sometimes the case that by hard pressure or rubbing the hand upon some particular spot, the patient can alleviate the pain. This is not at all times the case even in the same person, but is generally perceived at that time when

the paroxysms occur with least frequency. The paroxysms are less numerous during the night than during the day, owing to the patient being in a state of insensibility and to many of the exciting causes being absent. The state of stupefaction does not prevent the occasion of a paroxysm, as by the lightest touch of the bedclothes the patient may be transported from the soundest sleep to a state of intense suffering. The paroxysms occur at some periods more frequently than at others. Intermissions vary from a few days to as many months in duration, while some are at all times equally affected. Variations of weather influence the frequency of the paroxysms, they being more frequent in cold and damp than in warm and dry weather. Occasionally the disease disappears spontaneously and never again returns, but mostly after an interval of ease it recurs with its former violence. These intervals are the more frequent when the disease is of long standing. In these cases though the patient may be flattered with the hope of entire relief, yet a renewal of the disease may confidently be expected. Notwithstanding

the seat of the pain. There is an aching, swelling, & tenderness of the part. Occasionally after some more or less frequent, regular paroxysms, a slight swelling of the parts to which the applied pressure was made, may be seen. This swelling appears to be of a lymphatic character and to be caused by excess of irritation, as it disappears in a short time unless in a few instances cases terminates in suppuration. The most trivial causes are sufficient to produce a paroxysm, a slight motion, as in eating, drinking, talking, &c., a sudden breath, from a hair or particles of dust, a current of air, is productive of excruciating pain.

Neuralgia may be confounded with Neuritis, Odontalgia, Hemicrania, Affections of the Antrum, Rheumatism, Gout and Syphilitic pains. When the disease is fully developed, as it usually is, the marks are so manifest that it is not easily mistaken. In the commencement it is not so well marked, and as all diseases have a tendency, when neglected or improperly treated, to become more firmly fixed, and to be eradicated with difficulty, it

would be improper to pass over the diagnostic symptoms of the disease.

This form of disease occasioned by a slow and secret inflammation of the nerve and by its denominated Neuritis is most liable to be confounded with Neuralgia, not only from its affecting the same parts, but from its having some symptoms common to both. However may be distinguished by the pain in Neuritis being constant, with only occasional exacerbations and remissions, but never suddenly intermittent as in Neuralgia. A manifest swelling of the nerve may generally be perceived in Neuritis and its functions are more or less impaired. On the contrary in Neuralgia there is seldom any swelling and no loss of function.

Neuralgia may be distinguished from Odontalgia, by its occurring generally at an age when but few teeth remain, by the shortness of the paroxysm, the intervals of ease and the darting nature of the pain; while in Odontalgia the pain is deep seated and may usually be traced to the irritation of a decayed

tooth, and more particularly evinced by striking the suspected tooth with a hard body.

From Hemicrania it is to be distinguished by the of the attack in the former being generally preceded, the pain fixed to a definite spot; continuing some length of time and disappearing in a gradual manner; the pain likewise does not follow the course of any nerve, and requires stronger causes to produce an exacerbation.

The affections of the Antrum differ in their symptoms from Neuralgia in the pain being constant and confined to the region of the antrum, never darting in the course of a nerve, and by the ultimate gums usually terminate by a discharge of pus or cause considerable deformity. The affections are also not much under the influence of external agents.

Some diversity of symptoms exist between Neuralgia and Rheumatism, the pain in the former lancinating, intermitting and following the course of a nerve; while in Rheumatism, it is fixed, constant and

and in the whole period of life it is not so frequent as in Neuralgia. In the chronic form it is usually constant, dull and heavy, and not excited by slight causes.

From Gout it may be distinguished by the sudden cessation and recurrence of the paroxysms, the use of Gout being of longer continuance, and accompanied by local inflammation.

Syphilitic pains are distinguishable by the previous history of the complaint and their periodical exacerbation being at night when the patient is warm in bed.

The information obtained from post-mortem examinations when at the present period extremely limited. In the minor nerve trunks, the opportunities of detecting the specific condition of the affected nerve have been rare. In the few cases recorded there appears much diversity in the state of the affected parts. While in some cases no deviation from the healthy state has been found, in others diseased appearances have presented. In some cases the neurilema has been found more highly tinged with blood than is natural, usually thick-

unanimously more vivid than usual; but in not the neurilema was covered with turgid veins and in relaxed state, but not containing any excess of serum. The other circumstance is significant, as the relaxed state of the neurilema would, in a debilitating constitution, may have extended to surrounding cellular texture, though too long a delay in making the examination. Other cases have been found to give their existence to tumors pressing upon or implicated in the substance of the nerve. Although so much diversity has existed in the dissection appearances, no difference has presented in the symptoms by which the cause might have been known, except in those cases caused by tumors in which the morbid formation were evident to the senses.

Much difference of opinion exists as to the proximate cause of Neuralgia, each author setting forth his own opinion or honestly confessing his ignorance. Notwithstanding the numerous hypotheses adduced for determining the proximate cause, none can be considered as based upon a foundation entitled to much confi-

dence. André and the knowledge of the ancients was in its infancy, they possessed a correct knowledge of the nerves, and contented themselves merely in stating the opinion without pointing out the nature of the irritating cause. To this opinion succeeded that of Sydenham, who endeavoured to prove the disease to be a "nervous state of exaltation" of the nerves, depending on the action of a mechanical cause to produce a paroxysm. This hypothesis was refuted by Thouret, who entering minutely into the subject of Cramp mentioned the other dissimilarity of the two diseases. Dr Fothergill founding his opinion from the presence of certain new appearances in those who became under his care, was led to consider the disease as connected with a cancerous diathesis. The pertinent remarks of Dr Naylor suffice to show the fallacy of this opinion. Dr Fothergill is not the only author who has connected this disease with other affections of the system: Some later writers have made the proximate cause to consist in an arthritic diathesis, founding their opi-

nion on the fact, that these pains disappear on an attack of Gout, and from observing at the affected joint symptoms which may supposed to resemble those caused by Gout. But as observed by Dr. J. Murray "as this hypothesis is not applicable to every case it is inadequate to explain the mystery." By Dr. Parry the disease is located in the capillary vessels of the meninges and said to consist in an increased vascularity or determination of blood, perhaps amounting to inflammation, of that part. That this is sometimes the case is shown by post mortem examinations, but other phenomena also present which are not consonant with this theory. To Armstrong this disease appeared as "a congestion or increased action in the vessels of the brain." This cannot be the case in those attacks which have their origin in local causes, as injuries, &c. the hypothesis therefore falls short of explaining the nature of the disease. By Abernethy, Wilson and others, the disease is said to consist in a morbid sympathy, having its origin in the digestive organs. However active these affections may be in

aggravating the disease. It is more and less or more they can have in its formation. They can hardly be supposed to appear in any pathoremata existing in parts more susceptible to the action of the cause of the disease. The partial and limited nature of the conclusions laid down is manifest. Each author relying solely on the cases which have fallen under his observation and have yielded to some peculiar mode of treatment, forms his opinion from these alone, pulling entirely out of view those cases which militate against his doctrine. It is owing to this, that the disease has been so differently treated and connected with apparently independent phenomena. These partial views would yet be useful: were it not that relying with too much confidence on their correctness, remedies would be rejected, which other have found useful or [illegible] would not necessarily be employing measures not in harmony with our system. On the other hand, rejecting every theory, we deprive ourselves of any clear indications in the choice of our remedial resources and we are compelled to act empi

[illegible] or [illegible] a tend to him. From this we are [illegible]
we are induced to adopt the opinion which appears [illegible]
it with our present knowledge and by which we can explain
the action of our remedies, at the same time, not to be so far
carried away by theory as to loose sight of opposing facts,
but to leave the way open for further improvements [illegible]
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or thoughts so far back, as to adopt the opinion first
proposed by Andrè and subsequently revived in the L'union
médicale de science medicale, but we hope by means of the information gained since that period to give some additional
[illegible] to the doctrine. Neuralgia then, we are led to con-
clude, consists in an irritation acting on some particular ner-
vous chord, producing a partial interruption of its func-
tions and exhibiting its effects only ~~only~~ when the nerve
is acted on by the secondary or exciting causes. We shall
endeavour to draw some arguments in favour of this pro-
-ion from the Symptoms, Causes, Phenomena displayed by
injection, and the results implying in the cure of the
disease. The Symptoms alone are not adequate for the

formation of an opinion of the nature of the disease. They appear to show the location of the disease and the irritable state of the nervous fibre, without giving any clue of the cause of this state. From them, we might we cannot learn what is, yet what is not the cause of the disease is manifest. There is not an acute inflammatory action in the neuroma. This the suddenly intermittent nature of the pain entirely disproves, for in inflammation the pain is constant, varying occasionally in force, but not intermittent; the latter trait, intermission, is more characteristic of nervous irritation, or irritation. Failing to draw any conclusions from the symptoms we must resort to other circumstances to ascertain the nature of the disease. Of these, the causes first attract our attention, and perhaps the most numerous injuries. When the disease arises from this cause it pursues the following course. The injury is by which causes much pain and swelling, either with or without wounding, the injured part soon resumes its natural appearance previous to which or soon after, darting pains are felt in the course of the nerve, and increasing

in frequency and extent, exhibit the characteristic appearances of Neuralgia. Were we convinced in a similar manner of the primary appropriate effects, these disappearances would be accounted by other, subsequent, consecutive, the results of the previous disease. To ascertain the peculiar nature of these we must resort to the usual terminations of inflammation. There may remain a chronic thickening or congestion of the tissues, an effusion of serum or coagulable lymph, any of which may by their presence prove a cause of irritation. Neuralgia is said to be frequently connected with incarceration. This connection may be explained on the principle that occurred in a surgical case, producing irritation of the extremities, which irritation is propagated through the course of the affected nerve.

A case is reported by Dailey in which the obturator nerve was affected, and by him it was attributed to the passage of a calculus through the Ureter. This opinion was founded on the circumstance that the disease suddenly ceased, and not long after a jagged calculus was passed with the Urine. If he did not err in his conclusion.

were found pulsed which are much in favour of
an aneurism. It may rather be now supposed that the
neighbourhood of a aneurism but enclosed in a com
mon sheath, and produced the disease. That it
is not by causing an inflammatory action that these effects
are produced is manifest, since that cause the cut
had rather not have started to reading; it may have
caused congestion, which would have prevented
by limiting the action of the nerve. Cases are re-
markably [illegible], the disease appearing the sup
posed aneurism, which was found in an inflammation
and the cause unknown. In the inflammation the
complete die not participate, as the part would have
been manifested by the throbbing of the pain, but the
disease was caused by the pressure and irritation of the
swelling on the nerves. We have no conversant with the cau
ses from which any inference may be drawn. We doubt
not but we have explained the phenomena, they are to effective. The
morning of these phenomena show that the nerves not many
similar effects. However these effects may differ, their

nation in the dams, they are as capable of enduring pain of more exquisite sensibility: the nerves situated their of part would be unusual, resisting that which injures parts or will be supposed by night causes the result may easily occurred. The remains within the case of the disease because seem to point out irritation as the proximate cause. Vessels are numerous, then are most effective, which cancer the nervous sensibility. Tonics are resorted to, and by imparting tone to the general system, render particular parts less susceptible to irritation. Counterirritants are employed indirectly, but detaining an irritation easily controlled, prevent that is made and upon our immediate management.

The opinion we have advocated receives additional support from the sympathetic nature of the operation of cutting the nerve, in which the communication between the sensorium and affected part is completely interrupted. In thus opening an path affords in pursuing the doctrine of Andral, we can hardly expect to convey cause into the minds of others and we must come down to the

amounting that the negation is more specific even today in this further of pathology, may rather confirm the theory we have proposed or substitute one more consistent with all the phenomena connected with the disease.

The cause of the disease, we have said may be a lesion in any portion of the nerve. When an injury is inflicted on a nerve it is immaterial upon what portion it acts, as the disease is with equal readiness produced, but with this difference, that when the trunk receives the injury, the effects are exhibited in the direction of its branches, but when the extremities, the effects appear in the trunks and branches given off by it. Experience also establishes this difference as to the immediate effect when on.

From the uncertainty in which the true nature of the disease is yet involved, it is difficult to lay down any accurate indications in its treatment. In consideration of this difficulty, the diversity of the causes and the variety in the remedies hitherto employed, we are induced to arrange the curative measures under two classes, predicated upon the views we have enunciated to entertain.

Class first. Those measures calculated to remove the cause of the disease.

Class second. Those measures calculated to prevent the action of the causes from reaching the derma.

Under these two classes we shall endeavour to comprise all the remedies which have been used in this disease and with the principle of whose action we are acquainted.

Class first. Those measures calculated to remove the cause of the disease.

As these measures will vary according to the cause, our first endeavour should be to ascertain as far as possible, by what agent the disease is produced. In this ul

tempt, we will meet with considerable disappointment. The means we possess of distinguishing the different causes are few and not to be relied on with much confidence.

The irritation of decayed teeth has been stated as one of the causes. The presence of this irritation may often be ascertained with ease, at others it is not so apparent, the diseased part being concealed from view. In this case the following measures are usually resorted to. When the disease is in the neck of the tooth and concealed by the gum, it may be detected by passing a delicate, sharp, pointed probe, with a slightly curved end, carefully around the tooth, when if any cavity exists it will be perceived. When the disease is in the root of the teeth, striking on the crown of the suspected tooth with some metallic instrument will be productive of considerable pain. Though we may have thus ascertained the presence of the decay, we are still uncertain that it is the cause of the disease. We know in the one hand that the disease has been produced by the cause which the other that they have consequently no bearing any conclusion. If in the former case we

fact the tooth the disease is cured, but in the latter it is aggravated. We have then, the choice of two approaches the tooth by which to perform the operation, but it should remember constantly as to the prognostic of the result to be expected from extraction. It may be the best course for us to adopt the difficulty to have the choice to the patient's tendency the extraction when after the trial of other measures.

In proportion of tumors in their presence in nerves have studied to be another cause of the disease. Tumors cannot always be detected as such causes may be located in parts impenetrable or inaccessible. When the affected nerve is so situated that its course can be traced it is not difficult to discern the cause. If a tumor be found resting on the course of the affected nerve and pressing and produces a paroxysm, it is highly probable that the disease is caused by this tumor. The tumor when not connected to the nerve or surrounding parts, is movable in all directions, but when enclosed in the nerve it admits of lateral motion only. The indication for the removal of the cause can only be accomplished by the removal of the tu

mor. If the tumor be not connected with the nerve its simple removal will be sufficient, but if involved in the nerve, we have the choice either to dissect it out, or cutting through the nerve above and below the tumor to take out a portion with it. From the two cases published by Sir C. Home in the second volume of the Transactions of a Society for the improvement of Medical and Chirurgical knowledge, the latter operation would seem preferable, the other having terminated fatally.

Another cause of the disease is said to consist in "an inflamed state of the periosteum of the bones to which the nerves involved in the disease are distributed." This cause was first noticed by Dr. J. K. Mitchell in a case published in the first number of the N. American medical and surgical journal, and subsequently by Dr. Warner, who, in the succeeding number, entered more fully into the subject and considered it as the sole cause of the disease. He considers that the disease is situated at the point "from which the nervous twitches commence". If the inflammation does not exist the disease yet may be found

by, keeping up some degree of force upon the periosteum, in different points under it is intended to the pain produce. The remedies of cure employed by the above mentioned gentlemen are somewhat different. Dr. Mayer cutting down upon the bone and finding this state of the periosteum, tied up the artery leading to the part. Dr. T. recommends the inflamed spot to be bled freely upon, thus relieving the tension and congestion of the diseased membrane, and if necessary, it is to be repeated.

From some of the phenomena displayed on dissection it appears that a congestive state or lapse of balance in the circulation of the neurilema, is another and perhaps by far the most frequent cause of the disease. It is in this case, that the derangement of the general system exerts a powerful influence in aggravating the disease, its effects manifesting themselves more readily in the weakened parts. As the withdrawing of the aggravating cause will render the disease more tractable, and where the derangement mainly contributes to support the local congestion, will allow a more speedy subsidence of the disease; it is proper

to turn our attention to the state of the general system. So much must be internally convinced of the propriety of this measure, as to induce the disease to have its origin in a disturbance of the digestive organs and to depend on the restoration of their functions for a cure. The measures to be used will usually suggest themselves according to the state requiring correction. The accompanying Pyrexia, Gastrodynia and other symptoms of digestive derangement, much benefit may be obtained from Emetics, Purgatives, &c. Emetics by removing acrid and offensive matter and by rousing the action of the stomach often prove powerful agents in restoring the tone of the system and in establishing the proper balance between the several parts. They have accordingly been strongly recommended by Professor Physick, by whom they have been found particularly beneficial in the disease under consideration. Often they may have cured the disease, but in most cases, it will be necessary to follow up their action by other remedies and purgatives are next employed. The plan of treatment adopted by Mr. Abernethy consists in the exhibition of five grains of

the blue pill in the evening, to be followed on the succeeding morning by a small dose of Rhubarb. This act gently on the bowels, producing a mild aperient effect. It is perhaps owing to the combination of a mild laxative property with its tonic powers, that the Carbonate of Iron has proved so beneficial in the cure of Neuralgia. The success of this remedy has been generally ascribed to its alleged tonic, and in doses of one scruple only, its energies are displayed in the mere increased tone imparted to the system. But when administered in larger doses, as one or two drachms repeated twice or thrice a day, greater accuracy has been observed in the peristaltic motions of the alimentary canal and the alvine discharges have been rendered more regular and more abundant. When increased to the quantity of half an ounce, it has the following effects, as stated in the N. American medical and surgical journal, number six page 175. "the bowels have moved during the following day, and the pulse much weakened, an effect of invariable occurrence during the use of the Carbonate."

Nearly the same remarks apply to the Iron mixture. This article though generally superior to the Carbonate of Iron as a tonic, may nevertheless occasionally be advantageously substituted when the action of Iron is required.

The combination of an Opiate with a purgative, as Dr. Wilson will sometimes be more effective than either taken alone.

Considering the disease as arising from a relaxed condition of the digestive organs, Dr. J. Taylor has recommended the use of Prussic acid and Carbonate of Lead, affirming the cure to be more rapid than when prescribed the Carbonate of Iron. The action of this remedy is not confined to the digestive system, but also exerts a powerful effect in lessening the irritability of the nervous system, an operation which will often be found useful.

Having corrected the derangement of the system or no derangement being found, we must turn our attention to the more immediate cause of the disease, which we have stated to be most frequently an accumulation in a portion of the neurilema. The means of subduing this state.

of a first nature are General and Local bleeding. The former may occasionally be required, but in a majority of cases, there is so much debility as to render it inadmissible, and by very more general agitation. The greatest difficulty in its use, is to determine the spot from which blood may be drawn with most advantage, for unless it be taken from the neighbourhood of the affected part it will be productive of but little benefit, owing to the congestion remaining in the parts, it cannot expect much benefit from its use, unless the congestion is near the extremity of the nerve. It is also situated, in opposition of the general recommendation of Dr. Long and prescribe accordingly. When the disease affects the extremities, we may expect benefit from the detraction of blood in the course of the nerve, varying however its application according as more or less benefit is derived by the loss of blood from any, particular spot.

From its tendency to reduce the pulse and equalize the circulation, relaxes the contracted muscles, & allays the cramp. It sometimes alternates in benefit by the nerve, and may be of some use as an adjunct to the other remedies.

The debility which so often accompanies Neuralgia, by procuring the opinion that this state of the system is frequently concerned in the production of the disease has led to the use of tonics. The effect of this state will certainly be to aggravate the complaint by increasing vascular congestion. By the use of Tonics, we correct this state, promote an equanimity in the circulation and render the nervous fluid capable of irritation. Then comes the action of Tonics and ought to consider them as equally to certain states of the system and thus merely a confirmed by experience. The tonic of this, most recommended by Dr Malcolmson has obtained most celebrity in the cure of Neuralgia. According to this gentleman, the effects of the remedy are striking, "increasing the general excitement, promoting the digestive powers and recuperating sensations, giving a more florid hue to the blood and augmenting in a great degree the energy of the muscular fibres." Extremely of such powers such a remedy appears to be conspicuous even in small doses, and its frequent failure when thus given convinces us that it is not to its tonic powers alone that we are indebted for the

benefit derived from an increased dose. The additional energy acquired by this increase has been already mentioned and in the combined properties more is certainly due than to a therapeutic. The Carbonate of Iron has not, in this country, answered the high expectations raised by Dr. Hutchinson's publication. Some cases have yielded to the remedy, but many more have received no benefit. To what cause this may be attributed it is impossible to say. It may be, that not yet being accustomed to the use of the remedy in so large doses, we have not acquired sufficient boldness to push it to the extent requisite to test its virtues. The mode of administering the Carbonate, which appears most successful, is to give it doses of a drachm three times daily, and if that affords no relief to increase the dose. The only limits which appear to be set to this increase, is in the bulk of the remedy: half an ounce has been taken without any deleterious effect. Ordinarily we may commence with half a drachm at a dose, but this quantity is seldom sufficient to effect a cure. This remedy when tempum generally affords relief in few days after its first exhibition or an increase of the dose.

The Cinchona Bark was in proper condition having been gathered in a form of place & stored to remain during its transmission, upon chemical changes, to be ready for the permanent consideration. The success from the use of the Sulphate of Quinine in France exhibits most numerous parallels. From the accounts there published, it would seem it requires but a short period to effect a cure. In most cases under the Sulphate was exhibited in moderately increased the usual quantity, in some cases it reached eight grains taken three times a day. Still it was found necessary to acquire some new property by an increase of the dose. The same result would be expected in this case, and we are not disappointed. In Galle, Cinchona is cultivated to a great extent, and it is not unlikely an grains in a solution of property of some value in the market. But it is only there is the Quinine in this country, we have no means of ascertaining. It is probable that it has been employed somewhat but till we succeed, we may pass from the silence on the subject.

The experiments of Prof. Ure have not been so successfully. In Scotland, we find recommended by all.

Will in the year 1840, in my work on the Cholera, I have given accompanied quotations. This remedy though apparently very valuable when carefully managed, therefore cannot be entirely, in such a pleasantness. This remedy has not proved in many instances, very valuable stay. Sometimes in severe cases it is not sufficient to effect a cure, it often prolongs the disease.

These are the most important of the Tonics which have been employed in Diarrhœa. The preparations of Lime and the Nitrate of Silver have also been employed, but more not required much regulation. Recourse to these means the most required care of, upon excess is not to be very noted. This employed in the treatment of the country, has of itself approached cure of the disease. Without its use the other remedies may prove unavailing. Then cyth and bath cause an excellent adjuvant, it strengthens the system and tends to restore the energy and equilibrium of the circulation.

Stimulants have occasionally been employed with benefit. In Indura Quinii ammoniate has been very

Wostuck, in one case, in the dose of a drachm every 6 hours, was the effect of "always relieving his cough". By Dr Jackson of Boston the Aqua Ammonia was given, in one case, with benefit to the extent of from one to three drachms, three times a day; but on repeating the trial in another, it was "not equal to the cure of the disease". In France, the Oil of Turpentine in the dose of a drachm twice a day, has met with some success in femoro-popliteal Neuralgia. This remedy was first recommended by M. Martinet, and several subsequent reports concur in its efficacy. Under this head we may also place Electricity. This is reported to have been useful in some cases, and in others to have caused so much suffering as to entirely prevent its use.

The action of Counter-irritants in removing local congestion, render them applicable to the disease under consideration. Though their application will often be followed by no benefit, yet we will be disappointed if too much reliance be placed on their efficacy. These articles will be the more effectual the nearer they are placed to the seat of the disease. Of these remedies, Blisters often renewed or constant-

if kept up, into the first place. They are mostly directed to an application to the course of the apparent nerve. Others have adopted their application to compression of some given, or the extremities of the nerve, with the view of preventing the second effusion from the neuroma; which effusion is considered as the cause of the disease. Two plans have been pattered with some success in the hospital La Charité of Paris. In certain cases, in which apparent the cure of the neuroma, all been done with tumors successfully curing, at others failing even by removing the disease. Irritating ointments of apparent kind have not been found with the effect of alleviating and sometimes curing the disease.

The last remedy to be mentioned is Kreosote, applied to a tooth. This has occasionally conquered the disease, but it is one of our last resources, and it must be unpleasing. When it does not effect a cure, it often very relieves the disease. Sometimes the effects to be very long as the sensation is kept up, at others they are not manifest until the action of the mercury is subsiding.

Steps second. Those measures calculated to prevent the action of the cause, or neutralizing the sensorium.

These measures are two, the use of Narcotics and an Operation. The cause of this disease appears to be of such a nature, as to subside spontaneously when the exciting cause is not, or when by their action they are not capable of producing a paroxysm. Narcotics act in these cases by deadening the nervous fibre, thus to prevent the paroxysms and allow the disease to subside, as the paroxysms no longer reach the primary cause and keep up the irritation. Not to attributed to this that opium has been found insufficient to effect a cure. When employed to such an extent as to bring the system under its control, it acts as a palliative, but it requires a constant increase in the dose, and its power of paralyzing nervous sensibility is much inferior to that of other articles in the materia medica.

The first mode of this step is such an operation as the disease is the result, for the use of which we are indebted to L. F. Netherque. In the amount of cases, running, we found it to produce favourable effects, if conte-

well, as suppose I proceed. The same means have been used by Dr Jackson of Boston with similar success, but in one case he found it requisite to give three hundred grains in six hours, before it was beneficial. Then accounts and the cases of a like nature exhibit this remedy in a favourable light, and show its efficacy when the system is brought under its control. The effects of this remedy generally manifest themselves, according to Dr Jackson, in less than two hours. Dr J's plan was to commence with one grain of the extract, to be increased to five grains on the second or third dose, and five grains to be added to each succeeding dose, until the desired effect was produced. This remedy is worthy of further trial; Cases will however be met, in which it will only prove palliative.

The Atropa Belladonna has been brought forward first applied to the cure of the disease by Dr Bailey, who used it with much success. Later accounts have coincided with his. The tincture and extract are both useful. The latter is to be used in doses of one grain, gradually increased until its effects appear, when smaller doses will keep up the action.

Stramonium from its analogy to the foregoing articles has also been used. [illegible] Dulcamara. Dr. Chaussier recommends the employment of the Extract from the new in doses of from one to eight grains in a gram. which should not be exceeded until its effects have been ascertained. Dr. Dunglison is recommended to combine Ipecacuanha with the Stramonium, as it destroys the deleterious effects, without impairing those which are beneficial.

The Solanum and other articles hitherto proved to be topical. This mode when it can be used successfully is to be preferred, as the injurious effects are hardly avoidable. They are to be applied, in the form either of an unguent or plaster to the extremities of the affected nerve. With the same view Dr Cooper has employed with success a plaster chiefly composed of Lead. The failure of the articles of this class may often be attributed to the impurity of the medicine or to its not being given in doses sufficient to bring the systemic army under its control. These medicines are often found unfit for use or so impure as to require to be given in very large doses to produce their specific effects. Nothing but

their impurity can be attributed the immunity we whether usually have been found requisite to produce even moderate effects. Whereas results by Dr. Thacher the Cinchona taken in the amount of eighty grains in a fever seldom have been produced "only a slight giddiness for a few times" When such inspiration measures are used we are necessitated to increase the amount taken, and by the system becoming gradually accustomed to its action we are disappointed in its effects. Yet it appears that the sooner the system is affected, the greater is the impression on the disease and the smaller the dose subsequently required for its control.

Of other measures failing, we resort as our last expedient to the division of the nerve. It is evident that this can avail but little unless the division be made between the diseased point and the sensorium. The operation has met with success in the hands of Andre, Haighton and others, but with more it has ended in disappointment and failure. The cause of failure may often be attributed to ignorance of the location of the disease, with which even at the present day we are not better acquainted. The following circum-

stances may perhaps give some weight to the mystery. It is mentioned in some cases of "laughing questions" of the "pressure in the head in the case" where the pain". The circumstance leads to suppose that the disease was situated near the extremities of the nerve and that it is of the pressure was to cut off the communication with the cerebrum. The result of the questions seems to confirm this opinion. In several cases accompanied with mucous secretion, the recurrence which gives rise to the same supposition. In the case of Mr. Mackenzie, the pressure seems, rather to have been exerted, when the symptoms of the disease subsided, by the fluid coming into the cavity of the membranes. It is also that it may be conjectured to be the cause of the disease. Cases of this nature are reported by Lixons, Simpson, Prosser and others.

The modes of operating are chiefly two, the first division, the other the excision of portion of the nerve. In former instances by Haighton and others, but sometimes proved ineffectually by the reunion of the nerve. In modern operations this resource to prevent the reunion seems to effectually prevent it. A modification of the first was used by "Mr. Stock in the case of"?

plied it [illegible] thought to have [illegible] sufficient to [illegible] excessive [illegible] accompanying pain part of [illegible] the nerve, the [illegible] posed by the interposition of time. [illegible] the vast surface of the [illegible] may [illegible] the [illegible] degree of pain for a [illegible] much [illegible].

We have now finished the consideration of all the remedies comprehended under our two Classes, but we must not neglect to mention some others whose action we are unable to explain. These are magnetism and acupuncturation. The notions at one time entertained of the efficacy of the magnet were very exalted, it being considered to have the same power over pain which the

magnetic needle. These opinions have now died away and it is at present but rarely employed. Whether it ever was efficacious, except by its effects on the imagination, it is impossible to say. We cannot however be considered too sceptical in doubting its powers, when the fate of a similar remedy, the metallic Tractors, is taken into consideration.

The Acupuncture needle now stands high in the estimation of many. Notwithstanding the high encomiums passed upon it, its efficacy in the cure of neuralgia yet remains doubtful. We have seen it applied in several cases but never with any decided benefit. This however should not deter us from its use, as the application is simple and the pain produced is but slight. In addition to which some cases may be more appropriate for its application than others, a circumstance which at present we are unable appreciate.